Facilitating Growth of Administrative Practitioners as Mentors

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Abstract - This study explored training needs for practitioners who serve as mentors to aspiring principals. Findings identified several areas where mentor training is needed. These include: using time as a resource, helping mentors assign meaningful tasks to mentees, providing feedback, being able to operationalize roles and responsibilities, and helping mentors assess their own effectiveness in the role of mentor.

Facilitating Growth of Administrative Practitioners as Mentors

During the past decade situating students in field experiences with public school practitioners as mentors has become a component of most principal preparation programs. In cooperation with universities and other training programs, such as educational service centers, practitioner mentors serve as guides throughout the experiential learning process. In fact, today, mentoring programs are viewed as so valuable, that at least twenty states have mandated mentor programs for all beginning administrators who must engage in formal induction procedures of one kind or another (Daresh, 1995, 1997). Therefore, it is critical for principal training institutions to adequately prepare mentors for this responsibility. Yet, attempting to evaluate the effectiveness of these types of mentoring processes is a challenge that requires an identification of the expectations for mentoring and the mentoring relationship. Because mentoring is a complex process, problems associated with effective mentoring include: (1) supporting, assisting, and guiding the process, (2) finding time to communicate effectively, (3) facilitating self-reliance, and (4) training (Huling-Austin, 1992).

Effective mentoring is more than just the perfunctory accomplishment of items on a checklist, but "is an outgrowth of belief in the value and worth of people and an attitude toward education that focuses upon passing the torch to the next generation" (Head, Reiman, & Thies-Sprinthall, 1992, p. 5). Components essential for creating an effective mentor relationship are a mutuality of trust and respect, a mutual valuing of the relationship, and a mutually supportive environment (Playko, 1991). Head, Reiman, and Thies-Sprinthall (1992) suggest that the diverse, complex nature of the mentor's role increases the need for training because mentors become engaged in many roles, including that of trusted colleague; developer who encourages mentee self-analysis and balances support and challenge; symbolizer of experience who helps the

mentee translate and interpret experiences; coach and supervisor who provides a cyclic, on-going practice and more feedback; and anthropologist who deciphers the complex culture of the educational setting. Because of the complexity of the mentoring role and the challenge to provide adequate training programs, the purpose of this study was to explore training needs for public school practitioners who serve as mentors for aspiring administrators in a principal preparation program.

<u>Definitions of Mentoring</u>

Even in this new millennium where education is highly accessible, an important component of training occurs through the mentoring process which is the "passing of information and skills from veterans to novices" (Beam, 2000, p. 89). Successful mentors must be "teachers, coaches, trainers, role models, protectors, and sponsors at some point during their relationships with novices . . . who provide opportunities for the growth of others, by identifying situations and events which contribute knowledge and experience to the life of the steward" (Barnett, 1995, p. 45). This one-to-one interactive process of guided developmental learning is based on the premise that participants will have reasonably frequent contact and sufficient interactive time together (Milstein, 1993). Lincoln (1999) suggests four definitions that range from competent advising, to professional socialization, to the acquisition of new skills and finally the most inclusive, a colleagueship and collaboration existing within a system of friendship and respect which goes far beyond the day-to-day interactions with students. Additionally, Kay (1992) suggests that mentoring is a "comprehensive effort directed toward helping a mentee develop the attitudes and behaviors of self-reliance and accountability within a defined environment" (53). Restine (1993) characterizes a mentor as a role model but notes that this process is not one of complete imitation. Since mentoring is a learning process, mentors function as facilitators of learning, challenging mentees toward independence and working collaboratively to enhance skills and understanding.

Rationales for Mentoring in Principal Preparation Programs

Studies have identified both motivators and inhibitors for the principalship in an effort to better recruit individuals for the complex role of the principal (Harris, Arnold, Lowery & Crocker, 2000; Moore, 2000). Yet, even though nearly half of public school teachers in the United States have earned advanced degrees, many of these teachers are not interested in becoming principals. In fact, a study by the National Association of Elementary School Principals reported that over 60 percent of K-8 principals expected to retire as soon as their state retirement system allowed (Educational Research Service, 1998); and the U.S. Department of Labor projected that 40 percent of principals are nearing retirement (Blackman & Fenwick, 2000). Consequently, it appears that schools can no longer depend on informal mentor/coach relationships which have helped principals survive in the past. Instead, there is a growing sense of urgency to develop formal processes for providing the nurturing environment of mentoring for the development of aspiring and newly appointed principals (Malone, 2001).

Another rationale for the implementing of mentoring programs in principal preparation programs is "grounded in the assumption that the role of the leader is a lonely effort and that having the ability to relate to peers concerning personal and professional concerns is a way to reduce that sense of isolation" (Daresh, 1995, p. 14). Mentoring enhances a principal preparation program by enabling individuals to find a colleague in the real world who will be available to provide practical solutions to problems faced in the field, to describe procedures and policies, and to provide immediate feedback to mentees regarding how successfully skills associated with being an administrator are being implemented (Daresh & Playko,1992). In fact, Cordeiro and Smith-Sloan (1995) found that mentees in administrator programs acquire understandings of building operations, problem-solving strategies, interpersonal skills, and time-management techniques. Daresh and Playko (1992) also suggest that the coaching and feedback in mentoring enables students to clarify their personal "visions" of what educational leadership means and

develop a sense of commitment to a career in administration. Mentoring that works "together to blend theory and practice, wisdom, and experience" (Bass, 1990, p. 29) is a successful collaborative involvement between the practitioner and the university faculty that provides continuity, relevance, and substance to professional development programs.

Mentoring Characteristics and Relationships

In the training phase of a preparation program it is essential that the mentors and mentees have an understanding of the mentoring relationship. Being a mentor requires certain characteristics which include: a willingness to share knowledge, honesty, competency, a willingness to allow growth, a willingness to give positive and critical feedback, directness in dealings with the mentee (Wunsch, 1994), being nurturing, supportive and viewing mentoring as an opportunity for thoughtful reflection and personal growth (Enz, 1992). Other personal qualities that contribute to positive mentoring are confidence, a high energy level, and an outgoing personality (1992).

Daresh and Playko (1992), when focusing on beginning principals, identified seven important characteristics of mentors in a program of professional development for either aspiring or beginning administrators. These include: (1) having experience as practicing school administrators, (2) demonstrating leadership qualities of intelligence, good oral and written communication skills, acceptance of multiple alternative solutions to complex problems, decisiveness, clarity of vision, and well developed interpersonal skills and sensitivities, (3) being able to ask the right questions, 4) being willing to accept "another way of doing things," (5) wanting to see people go beyond their present levels of performance, (6) modeling the principles of continuous learning and reflection, and (7) exhibiting awareness of the political and social realities of life in at least one school system.

Wunsch (1994) describes the relationship as providing a supportive environment that allows closeness and distance and recognizes the similarity as well as the individuality of both

the mentor and the mentee. For the mentoring relationship to be helpful, the mentors' participation must be based on mutual trust, accurate and reliable information, realistic exploration of their goals, decisions, and options, challenges to their ideas, beliefs, and actions, holistic support of their efforts, and encouragement to pursue their dreams (Galbraith & Cohen, 1995). Barnett (1995) further notes that a successful mentoring relationship moves "through stages where the relationship progresses from relative dependence of the mentee in the beginning of the relationship to autonomy and self-reliance as the mentee grows into a colleague and peer (p. 45).

Training Mentors

Barnett (1991) notes that mentors need training to help them with their responsibilities in guiding mentees and mentees need to take responsibility for conducting a number of tasks that include planning staff development, observing and evaluating teachers, scheduling classes and providing performance feedback. Besides having the mentees conduct meaningful tasks, mentors and mentees agree that having the chance to discuss leadership issues is most helpful in providing a unique perspective on the role of a school leader, which helps the mentee see the "professional side of the job," "the broader picture and the effects of the principal's actions on teachers and students," and "the importance of a school-wide vision" (p. 151).

Mentoring is a complex function involving personal, psychological and professional skills (Gold, 1992), and training should be a collaborative effort between the university and the public school. Kay (1992) suggests that mentors be trained to deliver a four step strategy: (1) teach them how, (2) let them do, (3) help them learn from having done, and (4) accept them unconditionally. Enz (1992) recommends guidelines for collaborative mentoring that should be addressed in designing training for mentors include: (1) continuity in collaborative effort, (2) opportunities for significant complex new role taking, (3) commitment to a shared vision, (4) linkage of collaboration to current research and theory, (5) opportunities for analysis, reflection,

and the sharing of ideas. Clearly, research emphasizes the need for mentors to receive on-going support to effectively help mentees (Harris, 2000).

Methodology

Research questions. This study explored the issue of how prepared public school administrators are to serve as mentors in an extended field based experience.

Setting. This study was set in the context of a Sid Richardson Foundation grant that funded a cohort principal preparation program at a regional university in Texas. This program included a field based instructional delivery system where fifty percent of instruction was delivered through field-based activities. The program also featured three mentors for each student, formal and informal training for mentors and a university professor providing on-site supervision and training for mentors. The three mentors were (1) the on-campus mentor (2) an off-campus mentor assigned by the regional Educational Service Center (ESC), and (3) the university mentor.

Twenty on-campus mentors and their mentees participated in this study at a regional Texas university. The on-campus mentors were five white females, nine white males, one Hispanic male, three black females, and two black males; all were either principals or assistant principals at the campus where the principal preparation student was currently teaching. The mentees were two Hispanic females, four black females, six white females, one Hispanic male, five white males and two black males. The school settings were also diverse, with a range of school organization levels including eight elementary campuses, six middle school campuses, and six high school campuses. The campus size of the schools ranged from 100 students to 2,000 students. The communities in which the schools were situated ranged from small rural communities to large urban areas.

The on-campus mentor was selected by the principal preparation student and was usually the administrator who had recommended the student for the program. In most cases the administrator selected as a mentor was the campus principal or assistant principal. The second set

of mentors, referred to as off-campus mentors, were assigned randomly by the ESC staff from principals who had been participants in the ESC's principal academy. The off-campus mentors are not included in this study.

In cooperation with the university, and led by the professor who was also the grant director, the ESC provided two days of training during the Summer Institute, with accompanying materials for the principal preparation students, the off-campus mentors assigned by the ESC and the on-site administrator mentors. This training focused on developing specific skills, such as active listening and reflection. There were also activities, that provided opportunities for the mentors and mentees to interact using the skills as well as to explore some of the typical problems of administrators. Small groups were formed and trainers, mentors and mentees explored characteristics of good mentor/mentee relationships. During this time, the students were given opportunities to ask questions about the extended field experiences, procedures, assignments, and expectations. Sixteen of the ESC-assigned off-campus mentors attended both days while only five of the on-campus mentors attended either day because the on-campus mentors felt the scheduled meeting days conflicted with their schedules. Following the session, all mentors were mailed a letter of explanation, copies of the results of the seminar, and answers to the field experience questions

During the Summer Institute, the mentees spent four days on their public school campus with their on-campus mentors, discussing their major instructional improvement project, working with the mentor, and discussing issues concerning administration and the field experience. Early in the fall semester, the university mentor visited each campus to meet with the on-campus mentors and mentees, to monitor the progress of the mentee and to work with the mentor on the mentoring process.

<u>Data collection.</u> The study was conducted within the context of a principal preparation program with 20 on-campus mentors and 20 principal preparation students. Data sources included

a half-day seminar with mentors and mentees, interviews with on-campus mentors, university mentors' visits to campuses, weekly e-mail from students, university mentors' logs and journals, and students' reflections on their experiences. The data was triangulated, categorized and examined for emergent themes. Because comments were open-ended and not limited in number, totals equaled more than twenty for each question for mentors and for mentees.

Findings of the Study

Fall semester. Early in the fall semester, the university mentor visited each campus and interviewed the on-campus mentor and the mentee. The university mentor began each discussion by asking if the campus level mentor had read the materials on mentoring and the program expectations. The university mentor then asked if there were any questions or concerns about the mentoring or program expectations. The third question asked the mentor to outline the plan that s/he had developed with the mentee for the semester's field experiences. All twenty mentors acknowledged they had read the information generated by the mentors at the summer mentor seminar. All twenty stated they had no questions concerning the information on mentoring; however, not one of the mentors had developed a plan for mentoring with the mentee, and all twenty had questions about what the mentee should be doing. Mentor comments from the initial visit concerning the three questions centered around three themes: 1) all twenty mentors asked questions about what the mentee should be doing; (2) eighteen mentors asked for suggestions to find more time to help the mentee; and 3) twelve asked for specific ideas to implement to help the mentee.

The twenty on campus mentors who were not sure what the mentee should be doing questioned which tasks were most appropriate. One mentor said, "I'm not certain what I need to have her doing. I know that I should have had her start on some activities but I wasn't sure what would be appropriate. Do you think I should have her work with me on our campus planning?" Another said, "He has come by several times to ask questions about the specific assignments but

we haven't set up any plans for this semester. What do you want him to do?" Six mentors appeared to just need some assurance from the university mentor as evidenced by statements, such as, "... we haven't developed a plan, what do you think about ...?" At least one mentor wondered if he should go beyond the "assigned field based activities from class ... does she need to do anything else?"

The twelve mentors who were concerned about what they should be doing to help the mentee expressed concerns, such as, "[My mentee] is very eager . . . but I'm not sure how to involve her in administrative tasks that involve actual decision making." Another said, "I'm not really sure how much to involve him in discussing actual situations. How would you suggest I do this?" or "We want him to assist in the office when we have an administrator out for the day. What is the best way for me to help him with this?"

A major concern of eighteen of the twenty mentors was the issue of time. "Time is going to be a real problem. I can see that we will have a problem finding the time to spend discussing administrative issues. How often do you think we should meet?" Another mentor commented, "I've read the material, but I haven't had time to meet with my mentee yet."

Later in the fall semester, the university mentor visited campuses, met with mentors and mentees, and received weekly e-mail logs from students. Following the visits with the campus level mentors, the university mentor visited with each of the mentees. When asked how the field experiences were progressing, mentee responses fell into the following three patterns: 1) mentees felt a need to be doing more (18 responses); 2) mentees felt that the mentor did not know what they were supposed to be doing (15 responses); and 3) mentees felt their mentor was so busy, that sometimes they felt they were in the way (12 responses). Most student comments were similar to this, "We are beginning to discuss things and I feel better but I haven't really gotten started on anything major." At the same time, the mentors indicated that I) things were going well, 2) mentees were involved in several major projects, and 3) they were having difficulty finding time

to discuss issues and ideas with mentees.

Spring semester. During the spring semester the mentor principals were interviewed again by the university mentor. Questions centered around the following concerns: (1) What would have helped you feel more comfortable and knowledgeable about the expectations of you as a mentor? (2) What skills or training would have helped you with your mentoring responsibilities? (3) What were the biggest obstacles you encountered in mentoring? (4) If you could start all over, what would you do differently? (5) What could the university have done to improve your mentoring experience?

While all twenty of the responding mentors indicated that serving as a mentor was a positive experience, sixteen mentors indicated that defining expectations more clearly and having a more specific plan would have been helpful. The problem of finding enough time continued to be a major problem, with eighteen mentors voicing a time-related concern. One mentor stated,

I came to the summer session and enjoyed it but I still didn't know what I needed to do. The real problem has been finding the time and feeling comfortable sharing details about the 'work' of the administrator on this campus. I guess that I have a hard time knowing what I can share about what is going on behind the scenes. I think I've gotten better at that as time has gone along.

Another mentor commented that, "I would like to have had a plan for the entire time. I would like for us to determine together what we should focus on and how we are going to work." One mentor suggested "a checklist so that I could check off the things she needs to do, would really help."

At this same time, the mentees were asked to respond in writing to several questions regarding their interaction with their mentor. The first question focused on what the mentor could have done to be more helpful. Consistently, five areas of need emerged from the student comments: (1) share more in-depth information concerning situations and decision-making (18 responses); (2) involve mentees in more "meaningful" administrative duties and decisions (16

comments; (3) provide more guidance about how to "actually do things," (15 responses); (4) spend more time and "be more available," (15 comments); and (5) show more "confidence in me" to develop a more trusting relationship (12 comments).

When mentees were asked to identify what mentors might need to know to be more helpful, five categories of need were identified: (1) more formal training in being a mentor (18 comments); (2) a better concept of the mentor role and responsibilities (16 comments); (3) how to involve mentees in "more meaningful activities" (16 comments); (4) specifics about what "I should be doing, like a checklist" (14 comments); and (5) more specific guidelines for how "we should interact" (13 comments).

Conclusions

The data from this study suggest several important findings that should be considered in creating and implementing training programs for public school administrators to become effective mentors. These include:

- 1. Mentors who can intellectually describe and discuss definitions, roles, responsibilities, and relationships may not be able to operationalize them.
- 2. Mentors find that time is a major barrier to mentoring since they have difficulty finding time to teach tasks, observe performances, debrief experiences, and discuss roles and functions of administrators.
- 3. Mentors see the mentoring experience and mentor/mentee relationship as more positive and effective than the mentees.
- 4. Mentors find it difficult to involve the mentee in the more meaningful and confidential tasks of the administrator
- 5. Mentors have difficulty reflecting on practices, decisions and sharing reflections with mentees.
- 6. Mentors do not provide enough feedback on performances, nor do they share enough

insightful information about their daily duties, decisions, roles and responsibilities for mentees.

- 7. Mentors need guidelines about the types of activities expected and assistance in developing and implementing these plans.
- 8. Written guidelines on expectations for the field experiences are necessary for mentors, but for implementation, there needs to be direct and continuous contact between the oncampus mentor and university mentor.
- 9. Mentors are rarely serving as facilitators to move the mentee from an assisted to an independent level of performance.
- 10. Mentors have a difficult time assessing the effectiveness of their mentoring.

While participation in mentoring programs is generally considered positive by both mentors and mentees, unless mentors are skilled in creating and sustaining interactive, collaborative relationships, the mentor/mentee will have difficulty creating that type of relationship in an extended field experience. There is a clear implication that the mentor's personal and professional skills and knowledge impact a mentor's ability to serve effectively. This indicates that for public school administrators to become effective mentors, there is a need to go beyond intellectual, theoretical discussions and develop specific guidelines and plans in collaboration with the mentee and the university mentor. At the same time, the collaborative relationship between the university mentor, the public school administrator and the student must be given a definite priority to be effective. Based on this study three recommendations should be included in any mentor training program:

- 1. Mentors should be provided with a resource to build in time to spend with the mentee. This could be done by assigning other support help for the mentor that even considers a release from certain duties while acting as a mentor.
- 2. Specific guidelines should be available to the mentor outlining roles for the mentee that

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include meaningful activities and delineate ways to involve mentees in these experiences.

3. Formal mentor training should require attendance and should include specific training that emphasizes building relationships and professional collaborative behaviors.

References

- Barnett, B.G. (1991). School-university collaboration: A fad or the future of administration preparation? *Planning and Changing*, *21* (3), 146-157.
- Barnett, B. G. (1995). Developing reflection and expertise: Can mentors make the difference? *Journal of Educational Administration*, 33 (5), 45-59.
- Bass, G. R. (1990), The practitioner's role in preparing successful school administrators. *NASSP Bulletin*, 74 (529), 27-30.
- Beam, K. (2000). Mentoring women in higher education. In A. Pankake, G. Schroth, & C. Funk (Eds.), *Women as school executives: The complete picture*, (pp. 89-92). The Texas Council of Women School Executives, Commerce, TX: Texas A & M University-Commerce Press.
- Blackman, M. & Fenwick, L. (2000, March 29). The principalship. *Education Week on the Web*.

 Retrieved March 29, 2000 from: http://www.edweek.org
- Cordeiro, P. & Smith-Sloan, E. (1995, April 18 22). *Apprenticeships for Administrative Interns:*Learning to Talk Like a Principal. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Daresh, J. (1995). Research base on mentoring for educational leaders: What do we know? *Journal of Educational Leadership*, 33 (5), 7 - 16.
- Daresh, J. (1997). Improving principal preparation: A review of common strategies. *NASSP Bulletin*, 74 (529), 73-77.
- Daresh, J. C. & Playko, M. A. (1992). Perceived benefits of a pre-service administrative mentoring program. *Journal of Personnel Evaluation in Education*, 6 (1), 15-22.

Journal of Research for Educational Leaders (JREL) Spring, 2002, Vol1 Num2 http://www.uiowa.edu/~jrel pp.5-20

- Educational Research Services (1998). *Is there a shortage of qualified candidates for openings in the principalship: An exploratory study*. Arlington, VA: National Association of Elementary Principals.
- Enz, B. J. (1992). Guidelines for selecting mentors and creating an environment for mentoring. InT. Bey and C. Holmes (Eds.), *Mentoring contemporary principles and issues*, (pp. 65-77).Reston, VA: Association of Teachers Educators.
- Galbraith, M. and Cohen, N. (1995). *Mentoring: New strategies and challenges*. San Francisco: Jossey-Bass Publishers.
- Gold, Y. (1992). Psychological support for mentors and beginning teachers: A critical dimension.

 In T. Bey and C. Holmes (Eds.), *Mentoring contemporary principles and issues* (pp. 25-34). Reston, VA: Association of Teachers Educators.
- Harris, S. (2000). Mentoring for the millennium: Programs for new teachers and students. *Delta Kappa Gamma Bulletin, 66* (2), 57 61.
- Harris, S., Arnold, M., Lowery, S., & Crocker, C. (2000). A study of motivators and inhibitors for men and women deciding to become a principal. *Education Leadership Review*, 1 (3), 30 37.
- Head, T; Reiman, A.; Thies-Sprinthall, L. (1992). The reality of mentoring: Complexity in is process and function. In T. Bey and C. Holmes (Eds.), *Mentoring contemporary principles and issues* (pp. 5-24). Reston, VA: Association of Teachers Educators.
- Huling-Austin, L. (1992). Introduction. In T. Bey and C. Holmes (Eds.), *Mentoring contemporary principles and issues* (pp. 1 4). Reston, VA: Association of Teachers Educators.
- Kay, R. S. (1992). Mentor-management: Emphasizing the HUMAN in managing human resources. In T. Bey and C. Holmes (Eds.), *Mentoring contemporary principles and issues* (pp. 51-63). Reston, VA: Association of Teachers Educators.
- Lincoln, Y. S. (1999, January). Mentoring in the moment. Paper presented at The Southwest

Journal of Research for Educational Leaders (JREL) http://www.uiowa.edu/~jrel

Spring, 2002, Vol1 Num2 pp.5-20

Educational Research Association, San Antonio, TX, JANUARY, 1999.

- Malone, R. (2001). *Principal Mentoring* (Report No. 149). Office of Educational Research and Improvement, U.S. Department of Education. Available On-line: http://eric.uoregon.edu/publications/digests/digest149.html
- Milstein, M. (1993). Changing the way we prepare educational leaders: The Danforth experience. Newbury Park: CoRwin Press, Inc.
- Moore, D. (2000). The vanishing principals: Perceptions of graduate students in two university leadership programs. *Journal of the Intermountain Center for Education Effectiveness, 1* (1), ll 14.
- Playko, M. A. (1991). Mentors for administrators: Support for the instructional leader. *Theory into Practice*, *30*, 124-127.
- Restine, L. N. (1993). Mentoring: Assisting and developing the new generation of leaders. *People and Education* (1), 42-51.
- Wunsch, M. (1994). *Mentoring revisited: Making an impact on individuals and institutions*. San Francisco: Jossey-Bass Publishers.

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Note: This article was originally published in the Journal of Research for Educational Leaders (http://www.uiowa.edu/~jrel) as: "Facilitating Growth of Administrative Practitioners as Mentors" - Charlene Crocker and Sandra Harris, Spring 2002. Available online at http://www.uiowa.edu/~jrel/spring02/Harris_0107.htm. The article is reprinted here with permission of the publisher.